

A woman with long dark hair, wearing a maroon t-shirt, is standing in a grocery store aisle. She is holding a small jar of hummus in her right hand and looking at it. She has a shopping cart in front of her. The shelves are stocked with various food items, including jars and bags. The lighting is bright, typical of a grocery store.

HEALTH
MEANS®

Demystifying Food Reactions
FIND AND ADDRESS
YOUR PERSONAL
FOOD TRIGGERS

by HEALTHMEANS



Packed with nutrients, food has the power to nourish and heal us. But when it disagrees with our bodies, the result can be just the opposite – pain, fatigue, digestive issues and more.

Even if you think you're eating a clean diet, you may be sensitive to foods otherwise considered healthy. Remember, every body is different.

That's why it's essential to understand food allergies, sensitivities and intolerances, and other food reactions, to find your personal triggers. What are the differences and how do you identify offending foods?

Let's break it down.

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FOOD ALLERGIES

We've all heard that food allergies are on the rise. In fact, evidence does show that anaphylactic allergic reactions seem to be increasing [1]. These days, food allergies impact about four-to-seven percent of children and about one-to-two percent of adults [2].

A true food allergy will trigger symptoms immediately or up to a couple of hours after eating. Those can be anything from hives to wheezing to vomiting, or as serious as life-threatening anaphylaxis requiring treatment with epinephrine.

With an allergy, IgE (immunoglobulin E) antibodies lead to activation of mast cells and the release of histamine and other chemicals that make up an allergic response.

While any food may be an allergen for someone, the most common food allergens are cow's milk, soy, wheat, peanut, tree nuts, shellfish, fish and egg. The good news is, allergies may decrease over time, at least in children [3].



FOOD SENSITIVITIES AND INTOLERANCES

A greater percentage of the population has sensitivities or intolerances to certain foods. Food sensitivities may produce immunoglobulin A and G (IgA and IgG) reactions. In the case of IgG and IgA reactions, the immune system produces IgG and IgA antibodies – potentially leading to inflammatory processes.

These types of reactions don't happen immediately, making it tough to tie them to specific foods. In fact, symptoms may come on up to 72 hours after exposure to a food trigger. A food sensitivity may elicit anything from allergy-like symptoms such as rashes and asthma, as well as cramps, constipation, diarrhea, headaches, brain fog, migraines and more [4].

It's possible that people may have IgG or IgA sensitivities for years and never realize it as they may not connect a food with seemingly unrelated symptoms.

Such sensitivities are thought by many in the functional medicine community to be related to increased gut permeability, otherwise known as leaky gut. This can happen when gluten or an imbalance of bacteria causes an increase in the blood protein zonulin. As zonulin levels rise, the tight junctions between the intestinal cells loosen and create space which opens the doors for microbiota-derived antigens and endotoxins to pass through, kicking off an inflammatory process [5].

If the intestine is permeable, microscopic food particles travel through the walls of the gut lining and cross into the bloodstream where they are detected by the immune system. Unfortunately, that's why these types of sensitivities tend to be foods that you regularly eat.

Yet another distinction among food reactions are considered intolerances. An intolerance typically occurs when the body lacks the enzymes needed to digest what you've eaten, like lactose to break down dairy. Symptoms of a food intolerance tend to be more digestive and include nausea, stomach pain, gas, cramps, bloating, vomiting, heartburn and diarrhea. At times, they could manifest as headaches, irritability and nervousness.

While food allergies and sensitivities may call for avoiding offending foods entirely, a food intolerance may allow you to consume small amounts of it. Perhaps you could eat a little bit of a hard cheese, for example, and not feel an effect.

COMMON TRIGGERS

While everyone has unique reactions to food, certain foods show up more frequently as sensitivities or intolerances. Next, let's explore a few types of gluten sensitivity.

GLUTEN

More people than ever are going gluten-free. But who should eliminate gluten and why?

While we typically think of gluten as being in wheat products, gluten is a protein also found in barley, rye, bulgur, couscous, kamut, semolina, spelt, triticale, wheat germ and oats. While oats don't naturally contain gluten, it's possible they can come in contact with gluten-containing grains in the fields and during processing. So if you're going to eat oats and are gluten-free, look for certified gluten-free oats.



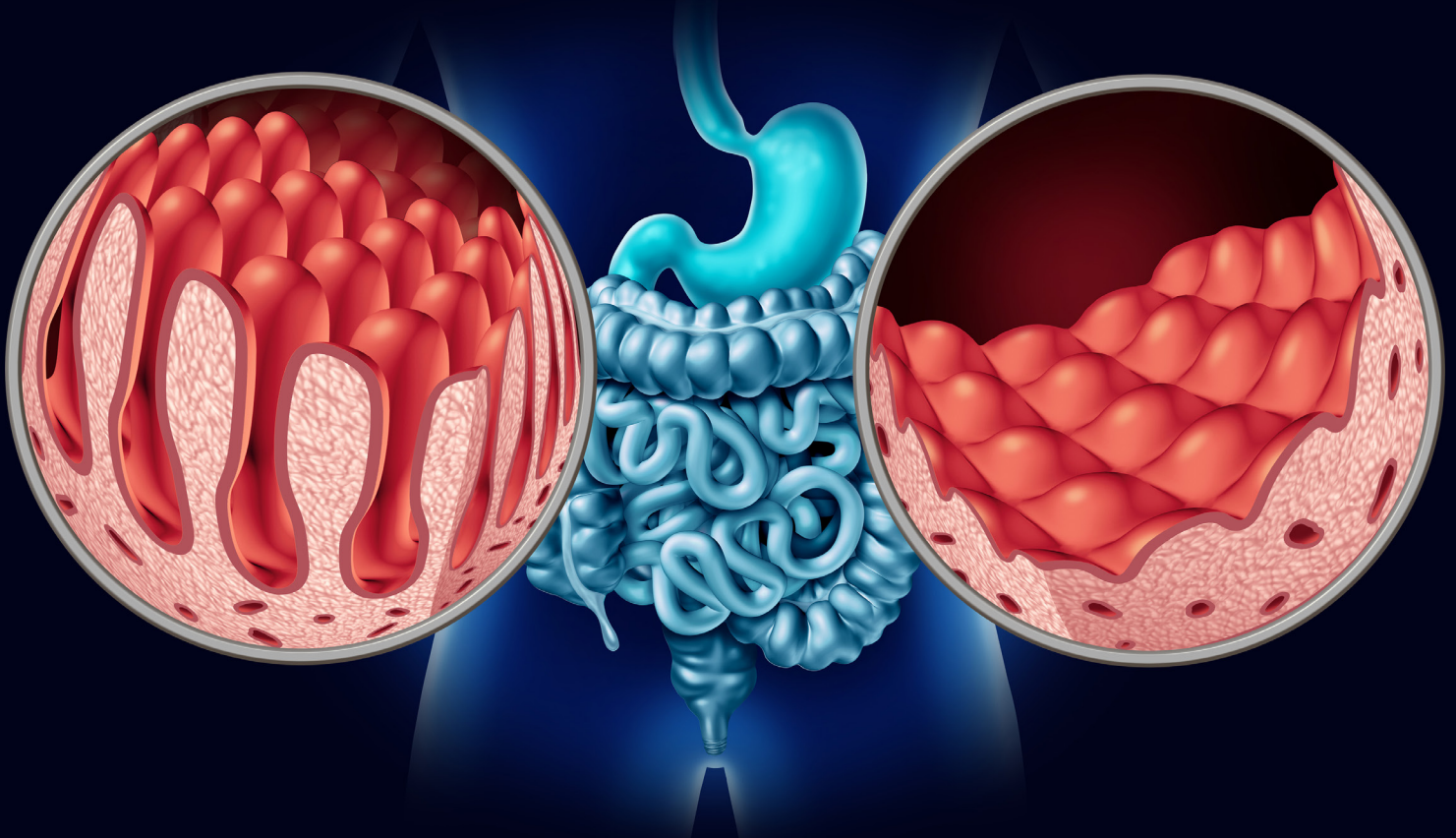
Celiac Disease

Gluten reactions can be due to celiac disease or non-celiac gluten sensitivity (NCGS). When those with the autoimmune condition celiac disease consume gluten, it triggers an immune reaction in the small intestine. As a result, the intestine can become damaged and unable to absorb nutrients. The most common symptoms of celiac disease include diarrhea, fatigue, weight loss, bloating, anemia and more. For some, the reaction can even be life-threatening.

A portion of those with celiac disease may believe they are asymptomatic. However, upon eliminating gluten, they might report improvement in symptoms previously thought to be unrelated like acid reflux, bloating and gas.

Celiac disease can be diagnosed with a blood test or an intestinal biopsy. The biopsy is considered the gold standard but blood tests can give an indication.

In addition, DNA tests may show a genetic propensity to celiac disease. Presence of the genes HLA-DQ2 and HLA-DQ8 increase your risk of having celiac disease [6], but do not necessarily mean that the disease will manifest.



Non-celiac gluten sensitivity



Non-celiac gluten sensitivity (NCGS) is a term used to group all other reactions to gluten that aren't autoimmune in nature. NCGS is thought to affect anywhere from 0.5 percent to 13 percent of Americans [7]. Those with NCGS may experience epithelial damage to the gut, immune activation and systemic inflammation [8].

If you're sensitive to gluten, you may notice symptoms similar to celiac disease or Crohn's disease, such as bloating, abdominal pain, diarrhea and gas [9]. Additionally, many with NCGS report fatigue, brain fog, joint pain, headaches, skin problems, anemia and mental health challenges.

If you find your body reacts negatively to gluten, it's best to avoid it entirely. One study showed that it can take as long as six months for signs of gluten exposure to no longer be detectable in blood tests [10].

Finally, there's another concern regarding gluten. Studies have found that gluten activates zonulin, the blood protein that leads to increased intestinal permeability, which in turn could increase the likelihood of other food sensitivities [11].

DAIRY

Along with gluten, dairy is often a major trigger, eliciting digestive distress, inflammation, skin reactions and congestion, among other possible effects. These reactions can be an allergy, sensitivity or an intolerance.



A dairy intolerance may stem from inadequate digestive enzymes needed to break down lactose. In fact, it's estimated that only about 35 percent of the population globally can digest lactose over the age of seven or eight [12].

However, studies have shown that those who eliminate dairy may incur calcium deficiencies [13]. Therefore, if you're sensitive to dairy, it's important to consider adding a calcium supplement and consume non-dairy calcium sources such as leafy greens, seeds, beans, lentils and almonds.

Interestingly, individuals with gluten sensitivity tend to be more sensitive to dairy as well. One study shows that number at around 50 percent. [14] Cow's milk protein elicited an inflammatory response similar to that triggered by gluten in about half of those with celiac disease.

NIGHTSHADES

While many of these vegetables and fruits contain important nutrients, some people report experiencing inflammation, pain or gastrointestinal symptoms after eating them. Such a reaction stems from the alkaloids in the plant – designed to ward off pests while growing.

While it's possible to have an actual allergy to foods in the nightshade family, the properties of the foods themselves may also cause irritation independent of an allergy. That's because some of us lack the proper enzymes to digest these foods, which may lead to inflammation in the gut and digestive issues. The alkaloids in nightshades have also been linked to leaky gut and inflammatory bowel disease [15].



In addition to some of the major allergens listed above, there are compounds in certain foods that can cause intolerances in some people. These compounds include, but are not limited to, oxalates, histamines and FODMAPs.

OXALATES

Many nutrient-rich plant foods contain oxalic acid, or oxalates. The list includes items considered super foods such as leafy greens, berries, beans and tea.

Oxalic acid is another property designed to protect plants from insects and disease, but oxalate foods can be a problem for some of us. They can actually interfere with the absorption of vitamins and minerals such as iron and calcium.

Oxalates bind to calcium and create oxalate crystals, which are actually the building blocks of kidney stones. Such binding also blocks calcium absorption. Additionally, these crystals may travel through the body and cause muscle pain.



High-oxalate foods include spinach, broccoli, cauliflower, oranges, chocolate, kale and nuts. However, you can reduce the oxalate content in your food by cooking vegetables or soaking nuts and seeds for 12 hours (then roasting the latter for 15-20 minutes) [16].

Keep in mind, not everyone is affected by oxalates. However, those with certain conditions may want to think twice about eating them: recurrent kidney stones, leaky gut syndrome, irritable bowel syndrome, inflammatory bowel disease, small intestinal bacterial overgrowth (SIBO), autoimmune disease, nutrient deficiency, chronic inflammation or vulvodynia.

Try reducing your oxalate intake with low-to-moderate oxalate foods for a while and assess any changes in your health. If you feel better, consider staying on this type of diet.

HISTAMINES

We typically associate histamines with seasonal allergies, and thus, turn to antihistamines to calm the reaction. But similarly, foods may contain histamines that kick off an allergic-type reaction in some [17].

Most people can process histamines in food without issue, but some people are intolerant to them. Those with an impaired ability to metabolize ingested histamine may experience reactions that include diarrhea, headache, nasal symptoms, asthma, hypotension, arrhythmia, urticaria, pruritus and flushing. Research attributes this to low levels of diamine oxidase, or DAO, the primary enzyme for metabolizing histamine [18].

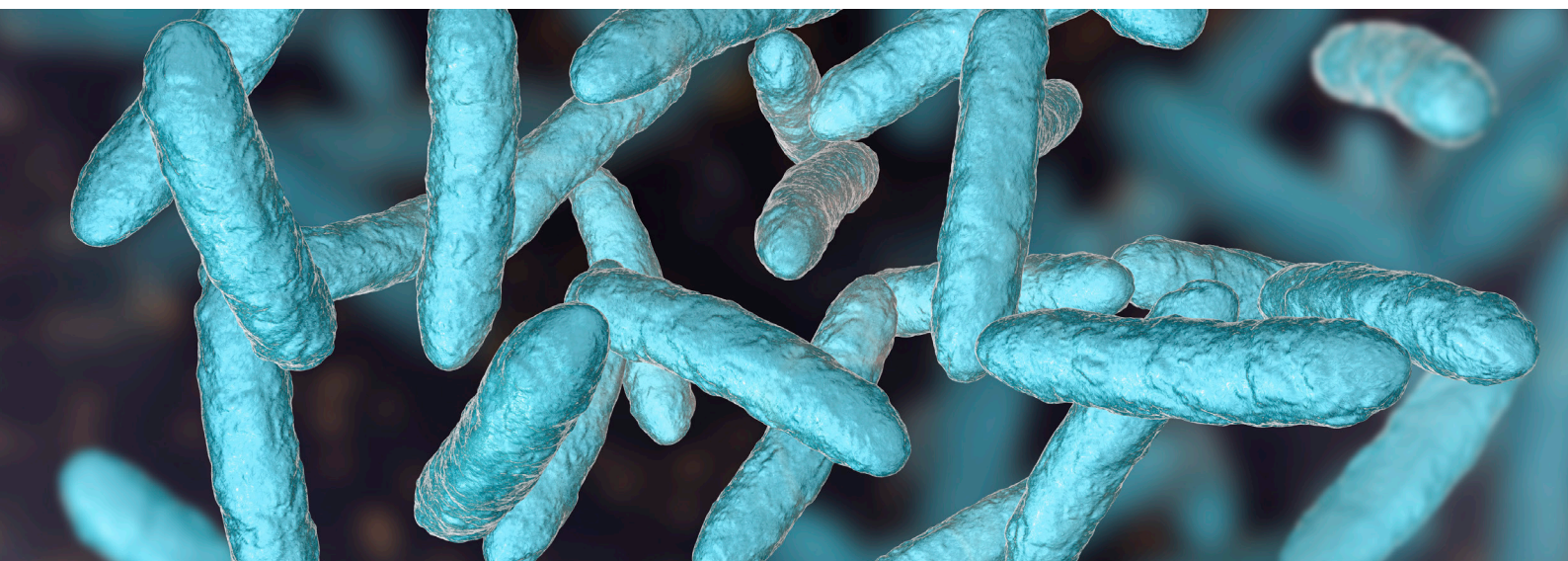
Foods high in histamine include aged and fermented items such as cheeses, yogurt, sauerkraut, processed meats, vinegars, alcohol and leftovers. Additionally, the list includes avocados, legumes, citrus, chocolate, some nuts, tomatoes, bananas, eggplant and spinach.

If you're experiencing what are believed to be histamine reactions, consider following a low-histamine diet. Some foods on a low-histamine diet include organic, grass-fed meats, fresh wild-caught fish, apples, blackberries, blueberries, coconut, and macadamia nuts.



FODMAPS

Many individuals with irritable bowel syndrome find they react to foods in a class called FODMAPs, short for fermentable oligosaccharides, disaccharides, monosaccharides and polyols. In some people, the small intestine absorbs these short-chain carbohydrates (sugars) poorly, causing symptoms such as cramping, diarrhea, constipation, bloating, gas, weight loss and malabsorption.



It's often caused, or exacerbated by, small intestinal bacterial overgrowth, or SIBO. Bacteria is normally present in the large intestine with small amounts in the small intestine. SIBO is defined as excessive bacteria in the small intestine [19]. When the bacteria ferment the sugars in the intestine, an individual may experience gas, bloating, diarrhea, constipation and malabsorption.

To reduce symptoms and help during treatment, consider trying a diet low in FODMAP foods [20]. Some examples of low FODMAP foods include blueberries, strawberries, carrots, zucchini and eggs, Avoid high-FODMAP items such as sugar in all forms, beans, garlic, onions, avocados, apples, and grains like wheat.

UNCOVER POSSIBLE CULPRITS

Finding your own food sensitivities and intolerances isn't always straightforward. Sometimes, it's clear that certain foods provoked a reaction. But often, we may not link specific foods to seemingly unrelated health concerns.

TO FIND YOUR PERSONAL FOOD SENSITIVITIES, CONSIDER THE FOLLOWING:



1. Try an Elimination Diet

An elimination diet is considered the gold standard for finding food sensitivities [21] and also helping heal the gut. However, it takes patience.

In a typical elimination-provocation diet, you eliminate certain foods for about three weeks and then slowly bring them back one at a time. However, if you're working with a practitioner, he or she may recommend an alternate timeline for you.

The Institute for Functional Medicine recommends removing the following foods: corn, dairy, eggs, gluten grains (barley, rye, spelt and wheat), white sugar, shellfish, soy, beef, pork, processed meats, coffee, tea and chocolate (because of the caffeine).

Instead, focus on eating vegetables, fruit, organic, cold-pressed oils (avocado, grapeseed, olive and coconut), lean meats and fatty fish, legumes, nuts, seeds and non-gluten whole grains.

For success, be sure to have plenty of approved foods on hand, plan your meals, carefully read all labels and drink six to eight glasses of water daily.

After the elimination phase, bring back eliminated foods one at a time, with each reintroduced food spaced out over two days. Keep a food diary of what you eat and carefully watch for any reactions.

2. Get Tested

DOCTORS AND PRACTITIONERS OFTEN RECOMMEND A NUMBER OF TESTS TO FIND FOOD ALLERGIES AND SENSITIVITIES AND THEIR POSSIBLE UNDERLYING CAUSES.

- **Blood testing** determines allergies to specific foods by measuring IgE antibodies. Food sensitivities are determined by measuring IgG or IgA antibodies.

However, there's debate about the accuracy of such tests. Some believe that the presence of antibodies may not signal intolerance, but rather, that the patient has merely been exposed to certain foods [22].

Zonulin levels can also be measured by a blood test, and is an effective method to determine leaky gut.

- **Skin testing** involves pricking the skin with a lancet with a drop of an allergen extract and observing the surface reaction. While a potentially itchy experience, it can reveal allergies although skin testing isn't always accurate. Skin prick tests are helpful for IgE allergies, but may not be as accurate for IgG or IgA because those reactions can be delayed.

Given uncertainty about the accuracy of these types of tests, most functional medicine doctors maintain that an elimination diet is the most definitive form of diagnosis.

- **Microbiome labs**, which analyze a stool sample, break down the composition of your gut bacteria, helping pinpoint an imbalance. As discussed previously, imbalances can dysregulate the immune system and be linked to food sensitivities.

It's been found that 70-80 percent of the body's immune cells are found in the gut [23]. And recent findings indicate that the microbiome may be related to the formation of food allergies [24] or sensitivities [25].

- **A breath test** will reveal small intestinal bacterial overgrowth. As mentioned previously, SIBO occurs when bacteria overgrows up from the large intestine into the small intestine. SIBO may make you more sensitive to certain foods, such as those high in FODMAPs.
- **Organic Acids Test (OAT)** will measure oxalate metabolites in the urine. Metabolites, also known as organic acids, are products of the body's metabolism. Your body doesn't readily absorb organic acids so they're found in the urine in high amounts.

HEAL YOUR GUT

Once you've identified your food triggers, adjust your diet to avoid the offending foods. Consider partnering with a nutritionist to customize your diet for your specific needs and health concerns.

Depending on what the underlying cause of your reaction is, it's possible that you may not need to eliminate them forever. The following steps have the potential to help heal the gut to the point where you may be able to reintroduce eliminated foods.

Given what we know about the role of gut bacteria and food allergies or sensitivities, it's not surprising that researchers found that giving several species of bacteria – found in the human gut – to mice actually protected against food allergies and reversed established disease. The microbes, in effect, reset the immune system.

THUS, IT'S ESSENTIAL TO WORK ON HEALING YOUR GUT. CONSIDER THE FOLLOWING STEPS TYPICALLY RECOMMENDED BY FUNCTIONAL MEDICINE DOCTORS AND NUTRITIONISTS:

- **Remove** – Eliminate anything that negatively affects the gut, such as trigger foods, parasites, yeast and bacterial overgrowth.
- **Replace** – Add items that may be deficient and that help with digestion, including digestive enzymes, hydrochloric acid or bile acids.
- **Reinoculate** – Encourage the growth of beneficial bacteria with probiotic foods (such as yogurt, miso and tempeh), probiotic supplements and prebiotics. Prebiotics feed probiotics and are found in a fiber called inulin. For inulin, eat foods such as garlic, onions, artichokes, flax and oats.
- **Repair** – Next, heal the lining of the gastrointestinal tract with nutrients such as zinc, vitamins A, C and E, fish oil and the amino acid glutamine.
- **Rebalance** – Balancing lifestyle factors such as sleep, exercise and stress helps you maintain a healthy gut.

CAN YOU REVERSE REACTIONS?

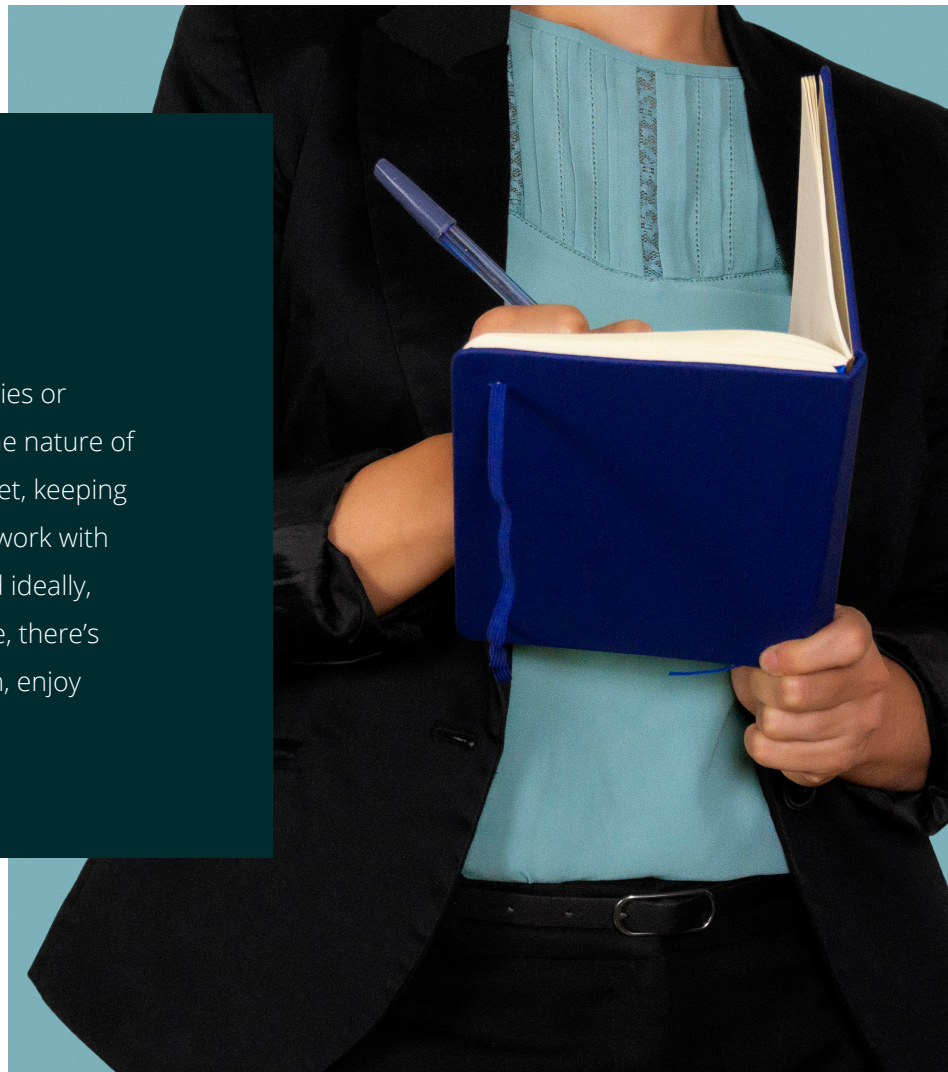
Recent studies show there's hope for those who have lost oral tolerance for certain foods, or the ability to eat those foods without a reaction. Immunotherapy, or giving small doses of what a person is reacting to under a doctor's care, has been shown to reverse allergies in some cases [26].

As for sensitivities and intolerances, many find that gut-healing allows them to eat foods that they could not before. Once leaky gut is healed, and food molecules no longer pass into the bloodstream, the body should soon stop IgA and IgG reactivity.

Additionally, studies indicate that certain probiotics may alleviate the symptoms of lactose intolerance by modifying the microbiota in the colon. In turn, these bacteria may even produce their own lactase enzyme that aids in digestion [27].

SUMMARY

If you suffer from food allergies, sensitivities or intolerances, take steps to understand the nature of your reactions by trying an elimination diet, keeping a food diary and running lab tests. Then work with a practitioner to customize your diet, and ideally, address any underlying causes. With time, there's hope that you may be able to, once again, enjoy excluded foods.



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